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AUTHOR Gramann, James H.: Burdge, Rabel J.
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"The Effect of Recreation Goals on Conflict Perception: the Case of Water Skiers and Fishermen"

by

James H. Gramann and Rabel J. Burdge

Institute for Environmental Studies and
Department of Leisure Studies
University of Illinois
Urbana-Champaign

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Address all correspondence to

James H. Gramann
Institute for Environmental Studies
University of Illinois
408 S. Goodwin Avenue
Urbana, Illinois 61801
(217) 333-6229

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The Effect of Recreation Goals on Conflict Perception: the Case of Water Skiers and Fishermen

ABSTRACT: Variations in psychological goals for recreation participation are explored, both between and within activity categories, and related to differences in conflict perception. Support for a "goal interference" model of conflict is found. According to this model, when recreation goals are incompatible, behaviors arising out of one set of goals will interfere with the achievement of goals in the other set, resulting in perceptions of conflict. Implications of this model for recreation zoning practices and the development of leisure theory are discussed.

KEYWORDS: Recreation goals, recreation conflict, discriminant analysis, carrying capacity, fishing, water skiing, leisure theory.

"THE EFFECT OF RECREATION GOALS ON CONFLICT PERCEPTION: The Case of Water Skiers and Fishermen"

Conflicts among recreationists have long been recognized in the popular literature, but only recently has systematic research on social conflict in recreation settings emerged as an area of scientific interest. Most efforts in this field have been directed toward studies of "recreation carrying capacity" (e.g., Heberlein and Vaske, 1977; Schreyer and Roggenbuck, 1978; Stankey, 1973). Here the objective has been to answer the question, "how many people can occupy a particular site at one time before perceptions of overcrowding occur?" Implicit in this question is the assumption that at some critical level of user density a discrepancy will occur between what an individual desires in terms of social contact and what is actually experienced. This discrepancy will then result in the perception of overcrowding.

This kind of reasoning also has relevance to the broader analysis of recreation conflict. Jacob, for example, has suggested a useful definition of conflict to be "goal interference caused by the behavior of another" (1977:2). Clearly, such a definition has a close relationship to the discrepancy assumption in crowding research. Using this

discrepancy orientation and drawing upon Jacob's definition, a recreation conflict can be conceptualized as any situation in which the discrepancy between what an individual desires form an experience and what is actually achieved is attributed to the behavior of other people in an interactive setting. Thus, when cross-country skiers shout insults at snowmobilers or when fishermen complain about the behavior of high-speed boaters, one cause of this antagonism may be an interference with the psychological satisfactions skiers and fishermen attach to their activity. If the goal of participation in a recreation activity is to achieve these satisfactions, as many leisure theorists suggest (e.g., Tinsley and Kass, 1978; Witt and Bishop, 1970), then frustration of this goal should be a source of conflict perception. The major purpose of this study is to empirically examine the utility of this "goal interference" model in understanding conflicts between recreationists.

Goal Incompatibility: A Source of Conflict

Sociological conflict theories often embrace the concept of "incompatibility" in explaining the clash between interacting goals (Fink, 1968). By definition, an incompatible goal is one that can only be achieved at the expense of another person's goal. People may differ in what they desire from an experience, or in the relative importance they attach to those desires they share in common. In an interaction between persons seeking different goals (for instance, "solitude" versus

"social contact"), the result will often be a state of goal interference, with one party's goal achievement being partially or totally frustrated by the behavior of others.

At present we can only speculate as to which types of goals might be incompatible. In his theoretical discussion, Jacob (1977) suggests that any interaction involving "physiological" and "cognitive" goals is likely to produce conflict, in that some interference with the cognitive goals should take place. Even if this were true, one is still left with the problem of deciding whether a specific recreation goal is cognitive or physiological in nature or, to complicate matters, whether it is some combination of the two, or neither.

What is needed is an exploratory study aimed first at establishing that goal differences do exist between groups generally recognized as in conflict, and second at relating these differences to the concept of incompatibility. Using this type of approach it is necessary to assume a priori that a conflict between groups exists. The problem then becomes one of identifying differences between the goal-sets of the two groups. If this is done, certain assertions about the nature of goal incompatibility can then be made which can be developed and further tested in predictive studies.

The Case of Water Skiers and Boat Fishermen

The situational assumption underlying this analysis is that water skiers

and boat fishermen on a typical midwestern flood control reservoir are in conflict with one another (at least to the extent that one group expresses antagonistic feelings towards the other). Empirical support for this assumption comes from responses by individuals to a 1978 survey conducted among users of the Lake Shelbyville reservoir in central Illinois. Responses to the survey included such comments as:

> Please put buoys back so fishermen can fish without getting washed overboard by water skiers, and have a quiet place to fish.
>
> While fishing, skiing personnel will come too close. I at one time caught one skier while fishing--this should be remedied in some way.

And from another boat fisherman:

> We consider it unsafe to boat on the lake on weekends due to recklessness and drinking. Larger, faster boats come within 100 yds. at full speed; seem to give the thrill of it all. Badly need a crackdown on speed and drinking.

Statement of Propositions

In the exploratory analysis described in this paper three relationships were examined. First, if we assume that water skiing and boat fishing are conflicting activities when they occupy the same physical space, it should follow that:

(1) Water skiers and boat fishermen can be distinguished from each other on the basis of the relative importance they attach to different recreation goals.

Statement (1) is derived from the proposition that members of groups in conflict are seeking to satisfy incompatible goals. It has already been pointed out that the concept of incompatibility is poorly defined in the recreation literature. Even so, we expected the important goals of groups in conflict to at least differ even if we could not state conclusively that they were incompatible. Thus, proposition (1) should at least be true if the goal interference model of conflict is valid.

However, even if this relationship were confirmed, an alternative explanation for goal differences had to be entertained. Although people can participate in the same recreation activity for different reasons, it is nonetheless likely that certain forms of recreation will be more suited to the achievement of some goals than others. Therefore, any variation in goals between activities may be due solely to the fact that the activities differ in form, irrespective of whether or not their associated goals are incompatible or the activities are in conflict. In order to test the extent to which goal differences contribute to recreation conflict independently of differences in the form of the activity, goal variation among boat fishermen as an activity category were explored. Persons who listed fishing from a boat as their

main recreational pursuit at the reservoir were divided into two categories, those who experienced "reckless boating" on the lake and those who did not. Here we assumed that reporting a certain type of boating behavior as reckless was indicative of an antagonistic attitude toward the high-speed boating characteristic of water skiing and power boating. Thus, fishermen who experienced reckless boating were assumed to be in conflict with power boaters (inluding water skiers) while fishermen not experiencing reckless boating were assumed to not be in conflict. The objective was to see if differences in antagonism were related to goal differences among boat fishermen. It was reasoned that the goals of fishermen not experiencing reckless boating would be more similar to those of water skiers than would the goals of fishermen experiencing reckless boating. The more similar the goals of two categories of recreationists, the less likely they would be incompatible, and the less likely the behavior of one would interfere with the goals of the other. One explanation, then, for some fishermen not experiencing reckelss boating was that they were pursuing different goals than other fishermen, and that these goals were more similar to those of water skiers. This reasoning was formalized in the second and third propositions examined in this study:

> (2) Among all boat fishermen, those who did not experience reckless boating will differ from those who did on basis of recreation goals.

(3) In a comparison between the recreation goals of water skiers and both categories of fishermen, the goals of water skiers and fishermen not reporting reckless boating will be more similar than the goals of water skiers and fishermen reporting reckless boating.

Data Collection

Data for this study came from a study of visitors to Lake Shelbyville, an Army Corps of Engineers reservoir in east-central Illinois. From May through October, 1978 2,099 randomly selected drivers of vehicles were contacted at various access points and campgrounds around the reservoir and asked to complete an eight page questionnaire about their visit when they returned home. Of those initially contacted, 2,003 (95.4 percent) agreed to participate and were mailed a questionnaire at their home addresses. Two follow-ups, the first by telephone and the second by mail (including a replacemnt questionnaire) yielded a response rate of 78.2 percent.

Recreation goals were operationalized by scores on 40 "Recreation Experience Preference" scales (Driver, 1977). These scales measure preferences for such recreation experiences as achievemnt, risk-taking, social contact, relationships with nature, exercise, and physical rest, in addition to several other recreation goals. The relative importance of the 40 preferences was measured on a nine-point Likert-type scale. Respondents were asked to rate how much each item would add to or detract

from the satisfaction they derived from their main recreation activity. A score of 8 (on a scale ranging from 0 to 8) on an item such as "feeling your independence" meant that the respondent felt that achieving such a goal would add "most strongly" to his/her recreation experience. The scale items have been extensively tested over the past several years by the University of Michigan and the U.S. Forest Service for reliability and internal validity across a variety of recreation settings and population groups (Driver, 1977).

Discriminant analysis (Tatsuoka, 1970) was used to examine the three propositions presented above. This technique produces a linear combination of independent variables describing the difference between two or more groups on these variables (in this case, the scales measuring recreation preferences). This linear equation is referred to as the discriminant function and is similar in form to a multiple regression equation with each goal weighted in accordance to its importance in differentiating between groups. In addition, in the case of more than two groups discriminant analysis permits a determination of which groups are most and least similar to one another in terms of the discriminating variables.

Findings

Recreation Goals of Water Skiers and Fishermen

Based on the assumption that fishermen and water skiers are in conflict,

the first proposition stated that the two groups would seek different goals in the respective recreation experiences. The discriminant analysis contrasting the goals of water skiers and fishermen is summarized in Table 1.

Table 1 about here

The centroids of the two groups (.399 and -1.522) represent group means on the discriminant function. These are roughly similar in concept to the average predicted Y for a group in multiple regression analysis. When compare with the centroids associated with each group, the structure matrix coefficients give an indication of which scales "load" on which groups within the context of the comparison.[1] Fishermen are more likely

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[1]Not all recreation preference scales are presented in Table 1. The Rao's V step-wise procedure utilized in the discriminant analysis eliminated those items that failed to meet a specified criterion for inclusion. In addition, the suggestion of Tatsuoka (1970) is followed, and only those items which have coefficients equal to one-half or more of the absolute value of the largest coefficient (in this case .484) are interpreted. This aids in understanding the nature of the contrast by excluding from consideration those items of minor substantive importance that are nonetheless "significant" due to the relatively large sample size.

to want to learn more about nature and enjoy the smells and sounds of nature (scales 1 and 3), to be seeking physical rest (scale 2), to want to develop their knowledge about "things" in the area (scale 4), and to want to grow and develop spiritually (scale 5). In contrast, water skiers show more of a preference for exercise and physical fitness (scale 6), having thrills (scale 7), showing others what they could do (scale 8), and directing other's activities (scale 9) as goals for their participation.

The loading of the two groups on the discriminant function is highly significant (canonical correlation = .616, $p < .001$).[2] In addition, the total discriminatory power of the function, as measured by the squared canonical correlation, indicates that almost 38 percent of the total variability in the discriminant function can be attributed to group membership. It seems safe to conclude, therefore, that a significant and moderately strong difference exists between the recreation goals of water skiers and boat fishermen in this sample.

Beyond any statistical import, the contrast in the discriminant analysis has an intuitive appeal. It is not unreasonable to expect that such recreation goals as rest, introspection, and the enjoyment of nature

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[2]This statistic is based on the discriminant function that included all 26 eligible variables rather than the nine reported in Table 1. Since the remaining 15 variables supply somewhat redundant information to the function, their deletion does not appreciably affect the significance of the relationship.

would be vulnerable to interference from a behavior associated with goals such as exercise and thrill-seeking. Thus, one explanation for the conflict between water skiers and fishermen might be that in pursuing their own goals water skiers interfere with the goals of fishermen. This interference may be due to an incompatibility between the interacting goal-sets associated with each activity. These results, then, lend support to the heuristic value of conceptualizing recreation conflict in terms of goal interference.

Differences in Recreation Goals Among Fishermen

If we assume that reporting an experience of reckless boating reflects a conflict with high-speed boaters, while the absence of this report indicates no conflict, then the goal interference model suggests that fishermen who did not experience reckless boating should be pursuing different recreation goals from fishermen who did experience reckless boating. In particular, the goals of the "no conflict" group should be more compatible with high-speed boating activity than the goals of the "conflict" group of fishermen. The results of this analysis are presented in Table 2.

Table 2 about here

The data in Table 2 show that fishermen who experienced reckless boating placed somewhat greater value on their activity as a mechanism for escaping from various tensions (scales 1, 2, and 4), using and discussing their equipment (scale 3), feeling their independence (scale 5), enjoying the smells and sounds of nature (scale 6), and doing things with their family (scale 7). On the other hand, fishermen not experiencing reckless boating reported relatively more emphasis on chancing dangerous situation (scale 8) and being near considerate people (scale 9).

Although this relationship was found to be statistically significant, the total discriminatory power of the function just described is weak. The squared canonical correlation indicates that only 16.4 percent of the total variability in the discriminant function can be "explained" by placement in an activity category. If all the assumptions of this analysis are accepted, these results would seem to indicate that incompatibilities in recreation goals may be only one factor explaining conflict perception. When activity type is held constant, as was done in this analysis, goal differences between those assumed to have experienced conflict and those assumed not to have experienced conflict become less significant.

A difficulty with this type of analysis is that recreation goals can be very activity-specific. For this reason less discrimination would be expected within an activity than between activities regardless of how

participants within an activity are categorized. It is significant, therefore, that goal differences between the two groups of fishermen do not disappear entirely. Moreover, the discriminant function obtained still appears to offer some insight into the problem of recreation conflict. Goals such as tension release and nature enjoyment would seem vulnerable to interference from high-speed boating, and these are the goals that load on fishermen experiencing "reckless boating." The goal "chancing dangerous situations" actually detracts from the experience of both groups, but detracts less from that of fishermen who reported no reckless boating.[3] The desire to be near considerate people is more difficult to interpret. From an intuitive standpoint it should load on those who express antagonism toward high-speed boating rather than on the "no conflict" group. However, the coefficients associated with this item and with the family togetherness scale are much smaller than the others, and may be of little substantive importance to the comparison.

It is concluded, with appropriate caution, that the second analysis shows some support for the goal interference model of recreation conflict. Within the relatively homogenous category of persons who claim fishing from a boat as their main lake activity, recreation goals are somewhat

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[3]A score of 4 on a scale item reflected a neutral value for the recreation experience. The farther below 4 the score on an item, the more it detracted from the experience.

different, and these differences may be important in the perception of conflict.

Relative Distance Between Groups

When the goals of all three categories of recreationists are examined simultaneously in a single discriminant analysis, it becomes possible to make statements about the relative "distance" between the goals of each of the three possible pairs of activity groupings. If the goal interference model of recreation conflict is valid, it was hypothesized that the goals of water skiers and fishermen not experiencing reckless boating should be closer to each other than the goals of water skiers and fishermen who did experience reckless boating.

Figure 1 shows a plot of each group's centroids on two discriminant functions.[4] The first function in this analysis is the most significant and serves mainly to distinguish water skiers from the two categories of fishermen. This is exactly the comparison of most relevance to the research problem. What should be noted is the relative distance between the skier's centroid and those of the two groups of fishermen on the horizontal axis. The centroid of fishermen assumed not to have experienced conflict is slightly closer to that of the water skiers,

[4]In general, any discriminant analysis will yield k-1 independent discriminant functions, where k is the number of groups in the analysis. With three groups two functions are possible. Not all functions need be significant, however.

Figure 1 about here

indicating that skiers goals, though quite distinct, are still somewhat more similar to this group of fishermen than to the fishermen who did not report reckless boating. Although this pattern is not striking, it is in the direction hypothesized.

An examination of the centroids in relation to the vertical axis reveals that on the second discriminant function water skiers fall somewhere between the two categories of fishermen, but slightly closer to those fishermen who reported reckless boating. Such a pattern argues against the proposition that water skier's goals should be most similar to fishermen not experiencing reckless boating. However, the second discriminant function is much weaker than the first and should not be accorded as much theoretical significance.

When comparing the distance between group centroids on the most important discriminant function, the goal interference model of recreation conflict receives some support. Goal similarity with water skiers is slightly greater among those fishermen who reported no problem with reckless boating than among fishermen who said they did experience

reckless boating.

IMPLICATIONS

The problem of conflict between user groups is one that concerns managers of recreation areas as much as it concerns recreation theorists. The basis for this concern is obvious. A management problem occurs whenever a gap exists between predetermined management objectives and the present status of a program. One of the objectives of public management of recreation areas is to maximize the flow of benefits to people through the provision of quality recreational opportunities. If, as seems likely, the quality of the recreational experience is reduced through user conflicts, a management problem will exist in that the predetermined objectives will not be fully achieved.

The most common response to the problem of conflicting uses has been to impose some type of zoning scheme on a recreation area, separating such uses by area or by time of day. In general, the results of this analysis support such a strategy, with two cautions.

First, separating <u>activities</u>, while having good potential for reducing such obvious conflicts as that between water skiers and fishermen, does not take into account incompatibilities <u>within</u> activities. This study found significant goal differences between sub-groups of fishermen, as well as between fishermen and water skiers. Moreover, goal

differences within fishing as an activity category seemed to be related to conflict perception. Therefore, separating water skiers and fishermen will not entirely accomplish the objective of eliminating user conflicts. Conflicts within an activity category may still exist.

Second, it may be possible for zoning to reduce or eliminate one conflict while exacerbating another. We have already pointed out the conceptual similarity between problems of carrying capacity and problems of recreation conflict. If areal zoning is imposed upon a site, one consequence is to reduce the amount of space available to a particular use, and thus increase use density within that space. Zoning, therefore, has the potential for substituting one form of goal interference (e.g., reckless boating) with another (e.g., crowding). In this regard, zoning by time rather than by area may be a more satisfactory solution. In the case of the conflict between water skiers and fishermen, one strategy might be to restrict the weekend use of high-powered motors on the lake to mid-morning and mid-afternoon, allowing fishermen the early morning and late afternoon hours to pursue their activity without interference from this source and without restrictions in space.

In summary, we have found enough support for the goal interference model of recreation conflict in this analysis to encourage its further development. Furthermore, we can easily conceive of its being extended to areas of leisure activity other than outdoor recreation. Understanding the dynamics of conflict in recreation settings, of which this research

is only a beginning, can thus help increase our understanding of leisure conflict in general. This is an area that has been barely explored and yet is of the utmost theoretical significance. In a field of research stressing the importance of freedom of choice, intrinsic motivation, and the social benefits of leisure, conflict can be regarded as dysfunctional in nature. Obviously, no theoretical understanding of a system is complete without knowledge of its dysfunctions as well as its functions. In the future we hope to see more attention paid to the theoretical analysis of conflicts built into leisure systems.

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Table 1. Discriminant Analysis of Difference on Reported Goals Between Boat Fishermen and Water Skiers.

Group	N	Group Centroids
1 - Fishermen	324	.399
2 - Water Skiers	85	-1.522

Scale Name	Structure Matrix Coefficients	Group Loading	Item Means Fish	Item Means Ski
1. Learn about nature	.484	1	5.83	4.72
2. Physical rest	.382	1	6.72	6.05
3. General nature experience	.318	1	6.50	5.32
4. General learning	.284	1	5.80	5.26
5. Spiritual	.244	1	5.06	4.56
6. Exercise-physical fitness	-.394	2	5.84	6.79
7. Seeking stimulation	-.297	2	5.24	5.99
8. Social recognition	-.275	2	4.58	5.21
9. Leading others	-.262	2	4.65	5.28

canonical correlation = .616, $p < .001$
squared canonical correlation = .379

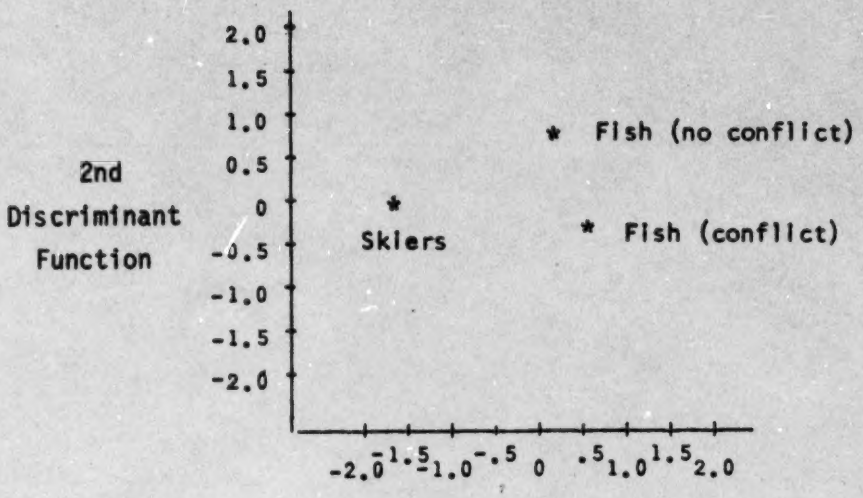
Table 2. Discriminant Analysis of Difference on Reported Goals Between Fishermen Not Experiencing Reckless Boating and Fishermen Experiencing Reckless Boating.

Reckless Boating Experienced	N	Group Centroids
1 - Yes	181	.375
2 - No	131	-.519

Scale Name	Structure Matrix Coefficients	Group Loading	Item Means Yes	Item Means No
1. Tension release	.406	1	6.80	6.34
2. Escape daily routine	.313	1	7.35	7.07
3. Equipment use and display	.305	1	6.14	5.86
4. Escape role overloads	.297	1	6.37	5.98
5. Independence/autonomy	.284	1	5.78	5.43
6. General nature experience	.284	1	6.67	6.32
7. Family togetherness	.214	1	6.58	6.31
8. Risk-taking	-.261	2	3.45	3.89
9. Near considerate people	-.217	2	5.54	5.84

canonical correlation = .405, $p < .001$
squared canonical correlation = .164

Figure 1. Plot of Centroids for Skiers and Two Categories of Fishermen in 3-Group Discriminant Analysis.



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canonical correlation (1st function) = .627, $p < .001$

canonical correlation (2nd function) = .356, $p = .067$

	Group Centroids	
	1st Function	2nd Function
Water Skiers	-1.537	-.110
Fishermen (no conflict)	.250	.526
Fishermen (conflict)	.523	-.330